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EXAMINER

NGUYEN, L

ART UNIT

PAPER NUMBER

2683

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.

08/904,312

Applicant(s)

KAWAI ET AL.

Examiner

LEE NGUYEN

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2683

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16, 19-24 and 27-50 is/are pending in the application.
- 4a) Of the above claim(s) 39-50 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5-8 and 31-34 is/are allowed.
- 6) ☒ Claim(s) 1-4, 9-16, 19-24, 27-30, 35-38 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

1. This office action is responsive to the communication filed 1/12/2001.
2. Claims 17-18 and 25-26 have been canceled. Claims 1-16, 19-24, 27-38, 39-50 remain in prosecution.

***Election/Restriction***

3. Regarding the traversal of the restriction, Applicant argues that the restriction according to 37 C.F.R. § 1.145 requires the distinct and independent. Applicant further argues that dependent claims 39-50 depend on the independent claims therefore they are not restrictive.

In response, the original independent claims are already distinct among themselves. These distinct claims should have been restricted in the first office action. As shown in the specification pages 2-5 of the present application, seven different embodiments are disclosed. The "unsolicited" is one among these seven different embodiments. Applicant has added this limitation to other six embodiments. Whether or not this limitation once added to the other six embodiments is fully supported by the original specification is not the subject to be concerned in the previous action as well as in this office action, but this added limitation to the other embodiments does create the serious burden that requires search and examination on the merits. Therefore, the examiner believes that the restriction is proper.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103<sup>e</sup> and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 19-<sup>24</sup>~~23~~, 27-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992) in view of Fujikura et al. (US 4,901,313) submitted by Applicant.

Regarding claims 19-<sup>24</sup>~~23~~, Spragins teaches an apparatus and method for receiving data from a primary station, comprising receiving said data I,0,0 (fig. 7.13b) and transmitting to the primary station at predetermined intervals (I,0,0 to I,2,0,P) in responsive to a polling signal P an error status signal REJ,1,F which indicates whether error correction information is required from the central station (page 328 section 7.6.3, figs. 7.13a-7.13b). Spragins does not explicitly

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teaches that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) a plurality of frames (col. 5, line 27) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Spragins in order to conserve system's bandwidth.

Regarding claims 21/19, 21/20, 24/22, 24/23, Spragins also teaches a plurality of frames I,0,0-I,2,0,P (fig. 7.13b). The high data level control link HDLC of Spragins provides the error correction request signal REJ,1,F (fig. 7.13b) indicating negative acknowledgment (NACK) or selected ones of frames which were not received correctly. Spragins differs from the claim invention in that the error correction request signal REJ,1,F (fig. 7.13b) can also indicate positive acknowledgment (ACK) or selected ones of frames which were received correctly. However, according to Spragins a secondary station can provide an error status signal that comprises either an error correction request signal indicating a frame which were not correctly received NACK4 (fig. 7.9) or a signal that indicates that no error correction is required ACK6 using Byte-Count-Oriented Protocols (pages 319-321). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Byte-Count-Oriented Protocols to the HDLC protocols in Spragins in order to allows piggybacking of positive acknowledgments and acknowledgment of multiple frames with one response.

Regarding claims 27-30, Spragins teaches an apparatus and method for receiving data from a primary station, comprising receiving said data in a format comprising a sequence of

frames (page 318, receive count of N frames); and transmitting signals to said primary station in a format including receive state information indicating the sequence number of the last in sequence of the received frames (page 318, supervisory frames can also be used for acknowledgments, receive count of 3), but not including a transmit state field (page 318, ACK and NACK frames each use a received count, but neither uses a send count). Spragins also teaches the frame format in Byte-Count-Oriented Protocols in Data Link Layer Protocols, page 316). Spragins does not explicitly teaches that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Spragins in order to conserve system's bandwidth.

6. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedeman (U.S. 5,303,286) in view of Smolinske et al. (U.S. 5,487,068) and Fujikura et al. (US 4,901,313) submitted by Applicant.

Regarding claims 1-4, Wiedeman teaches an apparatus for transmitting data relating to the status of user terminals in a mobile communications system from a central station 28 (fig. 2) having a database 20 as claimed to plurality of local stations 37, each having a local data base 27 as claimed, the apparatus comprising means for transmitting said data to each of said local stations 37. Wiedeman fails to take into account of error transmission when the central station

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transmits information in packets of frames to the local stations 37 which requires error detection in each local stations 37, wherein each local station 37 requests from the central station 28 for selective error correction and the central station 28 retransmits the selected frames in response. The concept of using a selectively automatic repeat request (selective repeat ARQ) for requesting a selected retransmission frame when error occurs from a local station to the central station is conventionally well known, which is taught by Smolinske. Smolinske teaches that when an error packet occurs the subscriber unit transmits a selective-repeat ARQ to the base station and the base station retransmits the selected packet to the subscribers (col. 2, lines 16-43). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the error detection and selected error correction of Smolinske to the system of Wiedeman in order to provide reliable packet level communication. Wiedeman does not explicitly teaches that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) a plurality of frames (col. 5, line 27) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Wiedeman in order to conserve system's bandwidth.

7. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smolinske et al. (U.S. 5,487,068) in view of Spragins et al. (Telecommunications Protocols and Design,

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Addison-Wesley Publishing Company, July 1992) and Fujikura et al. (US 4,901,313) submitted by Applicant.

Regarding claims 9-10, Smolinske teaches a method and apparatus for transmitting data to a plurality of data receiving stations, comprising: a base site transmitting data in a common channel in a format comprising a plurality of frames to receiving stations (col. 2, lines 31-33); receiving error correction request signals indicating selected ones of said frames as claimed (selective repeat ARQ, col. 2, lines 33-39); retransmitting said selected frames to said receiving stations and receiving from each of said local stations acknowledgment signals indicating the earliest in sequence of said frames which has not been received by that local station (col. 2, lines 36-42). Smolinske fails to explicitly teach that the selective repeat ARQ is implemented under high level data link format HDLC in which a new frame which has not previously been transmitted is transmitted only if a sequence order of said new frame is not greater than a sequence order of the earliest of said frames which has been indicated to but not have been received by any one of said receiving stations by a predetermined number. This technique is conventionally well known in the art, as taught by Spragins. Spragins teaches that a new frame I,2,0,P (fig. 7.13b) which has not previously been transmitted is transmitted only if the sequence order 2 of said new frame is less than a predetermined number 3 of frame I,3,0 greater than 1 the earliest of said frames I,1,0 which has not been received by any one of local stations (page 328, section 7.6.3, figs. 7.13a and 7.13b). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Spragins to the apparatus of Smolinske in order to reduce transmission delay. Smolinske does not explicitly teaches that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations.



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However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) a plurality of frames (col. 5, line 27) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Smolinske in order to conserve system's bandwidth.

8. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smolinske et al. (U.S. 5,487,068) in view of Ellis et al. (U.S. 5,497,371) and Fujikura et al. (US 4,901,313) submitted by Applicant.

Regarding claims 11-12 and 14-15, Smolinske teaches a method and apparatus for transmitting data to a plurality of data receiving stations, comprising: a base site transmitting data in a common channel in a format comprising a plurality of frames to receiving stations (col. 2, lines 31-33); receiving unsolicited error correction request signals indicating selected ones of said frames as claimed (selective repeat ARQ, col. 2, lines 33-39); retransmitting said selected frames to said receiving stations in response to the request signals (col. 2, lines 36-42). The frames of Smolinske inherently includes frame sequence information N(S) indicating the sequence of each frame and receive state information N(R) indicating the sequence of any frames received from any of the receive stations because it is implemented with selective repeat ARQ protocol in the HDLC layer which is ISO/IEC 7809. Smolinske differs from the claim invention in that the frame does not include receive state information N(R) indicating the sequence of any frames. However, this technique is conventionally well known in the art, as taught by Ellis. Ellis

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teaches an HDLC format frame which includes the frame sequence number N(S) 4, but not including receive state information N(R) indicating the sequence of any frames (figs. 3-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the teaching of Ellis to the apparatus of Smolinske so that higher priority of information packets can be transmitted over a single communication link. Smolinske does not explicitly teach that the primary station is a broadcast station which broadcasts data to a plurality of secondary stations. However, this technique is not new as taught by Fujikura. Fujikura teaches secondary stations 2(1)-2(n) including means for receiving data from a broadcast station 2(0) a plurality of frames (col. 5, line 27) and means for transmitting an error status signal to the broadcast station (fig. 1, col. 5, lines 5-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the broadcast of Fujikura to the system of Smolinske in order to conserve system's bandwidth.

Regarding claims 13 and 16, Smolinske as modified fails to teach that the N(S) sequence number is eleven bits in length. A skilled artisan would find that providing the N(S) sequence number with 11 bits in length or any other lengths obvious because it is not critical in the invention. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the 11 bits in length to N(S) sequence number of Smolinske in order to reduce overhead signaling in the communication system.

9. Claims 31/1/2, 31/9, 31/11/12/13, 31/19/20, 31/27/28, 32/3/4, 32/10, 32/14/15/16, 32/22/23, 32/29/30, 33/9, 33/11/12/13, 33/19/20, 33/27/28, 34/10, 34/14/15/16, 34/22/23 and 34/29/30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedeman (U.S.

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5,303,286) in view of Smolinske et al. (U.S. 5,487,068) and Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992) and Ellis et al. (U.S. 5,497,371) and Fujikura et al. (US 4,901,313) submitted by Applicant .

Regarding claims 31/1/2, 31/9, 31/11/12/13, 31/19/20, 31/27/28, 32/3/4, 32/10, 32/14/15/16, 32/22/23, 32/29/30, 33/9, 33/11/12/13, 33/19/20, 33/27/28, 34/10, 34/14/15/16, 34/22/23 and 34/29/30, Fujikura teaches the satellite broadcast communication as stated in the above rejection.

10. Claims 35/21, 36/24, 37/21 and 38/24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spragins et al. (Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992) and Wiedeman (U.S. 5,303,286) and Fujikura et al. (US 4,901,313) submitted by Applicant .

Regarding claims 35/21, 36/24, 37/21 and 38/24, Fujikura teaches the satellite broadcast communication as stated in the above rejection. Wiedeman also teaches the database of each received stations stores the status of user terminals as claimed (fig. 2 of Wiedeman).

#### ***Allowable Subject Matter***

11. Claims 5-6, 7-8, 31-34 are allowed.

#### ***Response to Arguments***

12. Applicant's arguments filed 1/12/2001 have been fully considered but they are not persuasive.

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In view of the response in the restriction section. Dependent claims 39-50 are withdrawn from consideration.

On page 8 of the remarks, Applicant argues that there is no suggestion to combine Fujikura to the system of Spragins in order to conserve system's bandwidth.

In response, Applicant is referred to col. 1, line 52 through col. 2, line 3 and col. 2, lines 43-49 of Fujikura in which the system bandwidth is conserved with his teaching.

On page 9 of the remarks, concerning the independent claim 19, Applicant argues that Spragins does not teach means for transmitting to the broadcast station at predetermined intervals error status signal.

In response, Applicant should refer to Spragins page 328 in which the 3 frames are periodically sent. Consequently, the error status signal is periodically requested.

On page 10 of the remarks, the argument regarding Fujikura is piecemeal analysis.

The argument concerning the rejection of independent claim 22 is responded for the same reason as set forth above.

On page 12 of the remarks of claims 1-4, the argument directs to the suggestion to combine the reference has been addressed above.

Applicant further argues the limitation of broadcasting. This limitation was also disclosed by Fujikura as stated in the rejection.

On page 14 of the remarks, regarding the rejection of independent claims 9-10, Applicant argues that the claims includes a sliding window that Spragins fails to teach.

In response, the examiner contends that the claimed limitation are taught by Spragins.

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On page 15 of the remarks, regarding the rejection of claims 11-16, the argument directs to the suggestion to combine the reference has been addressed above.

On page 16 of the remarks, regarding the rejection of claims 32-34, the argument directs to the suggestion to combine the reference has been addressed above.

On page 17 of the remarks, regarding the rejection of claims 35-38, the argument directs to the suggestion to combine the reference has been addressed above.

### *Conclusion*

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **LEE NGUYEN** whose telephone number is (703)-308-5249.

The examiner can normally be reached on 8:00 AM - 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, WILLIAM TROST can be reached on (703) 308-5318. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-6306 for regular communications and (703) 308-6306 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

LEE NGUYEN  
Primary Examiner  
Art Unit 2683

*leen 4/3/01*